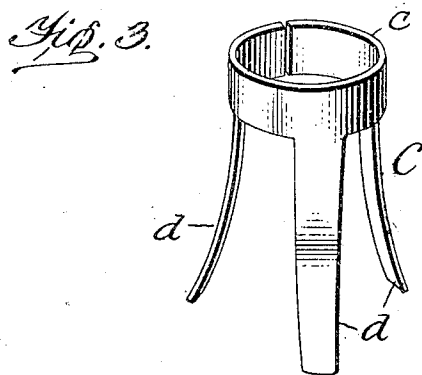
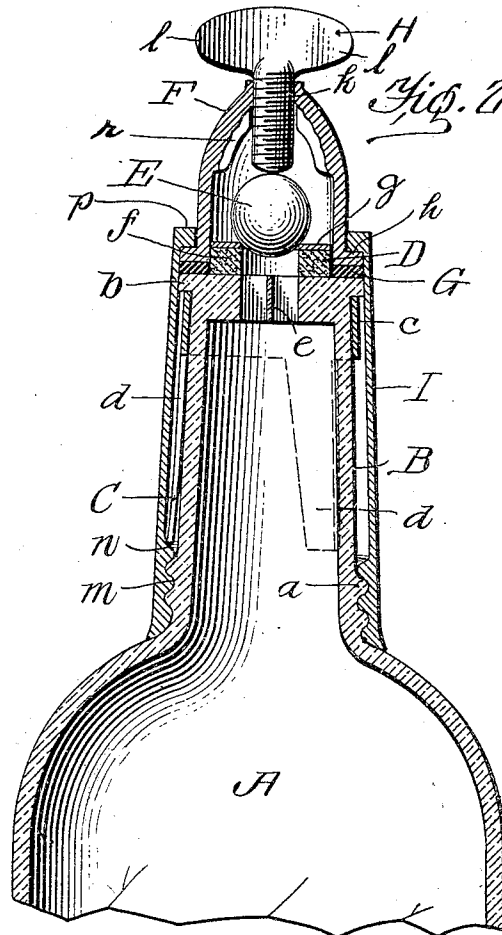
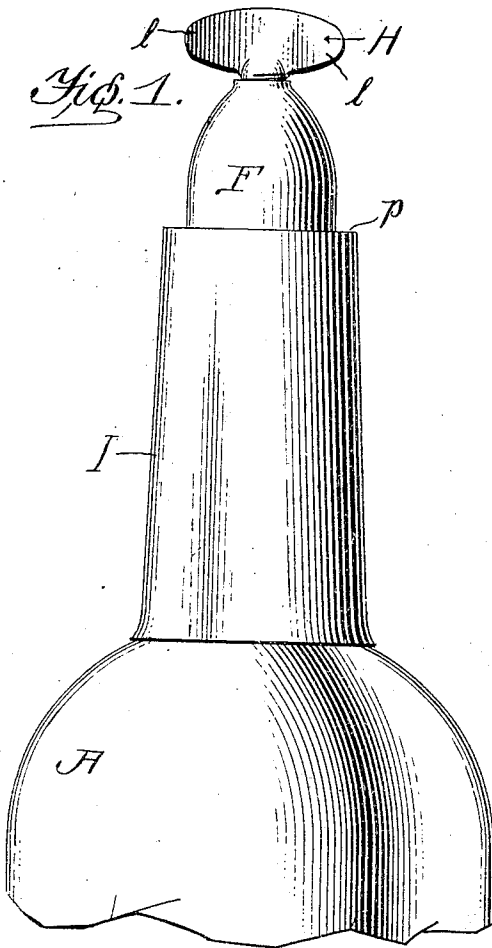


No. 835,706.

PATENTED NOV. 13, 1906.

A. H. LEWIS.
VALVED BOTTLE CLOSURE.

APPLICATION FILED JULY 6, 1906.



Witnesses

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UNITED STATES PATENT OFFICE.

ALBERT H. LEWIS, OF NEW COMERSTOWN, OHIO, ASSIGNOR OF ONE-HALF
TO JACOB H. PORCHER, OF NEW COMERSTOWN, OHIO.

VALVED BOTTLE-CLOSURE.

No. 835,706.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed July 6, 1906. Serial No. 324,928.

To all whom it may concern:

Be it known that I, ALBERT H. LEWIS, a citizen of the United States, residing at New Comerstown, in the county of Tuscarawas and State of Ohio, have invented new and useful Improvements in Valved Bottle-Closures, of which the following is a specification.

My invention pertains to valved bottle-closures—i. e., closures constructed with a view of precluding fraudulent refilling of bottles; and it contemplates the provision of a valved closure which while simple, compact, and inexpensive in construction may be depended on to render practically impossible the fraudulent placing of liquid or other substance in the bottle, and this without interfering with the free pouring of the original contents of the bottle therefrom.

Other advantageous characteristics peculiar to my invention will be fully understood from the following description and claims when the same are read in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of the upper portion of a bottle equipped with the closure, constituting the present and preferred embodiment of my invention. Fig. 2 is a vertical section of the same, and Fig. 3 is a detail perspective view of the hood-retainer of the closure removed.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A is a bottle, preferably, though not necessarily, of glass, on which there is a neck B, provided at its base with an exterior thread *a* and at its upper end with an outwardly-directed flange *b*.

C is a hood-retainer which is preferably formed of resilient metal. The said retainer comprises a collar *c*, which surrounds the bottle-neck B and is designed to bear against the under side of the flange *b* and arms *d*, which reach downward from the collar *c* and are flared outward as they recede from the collar.

The upper end of the bottle-neck B is closed or controlled by cross-bars *e*, which are preferably, though not necessarily, formed integral with the neck B, as illustrated. These bars *e* are designed to support the valve-seat presently described, and yet not interfere with the free outward passage of liquid.

D is the valve-seat referred to in the foregoing. The said valve-seat is annular in form and is made up of a lower layer *f*, of cork or other suitable compressible material, and an upper layer *g*, of metal, fixedly connected to the cork layer and having for its function to prevent wear of the cork layer and in that way materially prolong the usefulness of the closure as a whole.

E is a ball-valve superposed on the valve-seat D after the manner best shown in Fig. 2.

F is a cap surrounding the seat D and the ball-valve E and having a base-flange *h* and also having a threaded aperture *k* in its upper end.

G is a compressible washer interposed between the upper end of the bottle-neck B and the base of the cap F and designed to render the joint liquid and air tight.

H is a screw-plug occupying and engaging the threaded aperture *k* in cap F, so as to bear on the ball-valve E, and preferably having wings *l* at its upper end, whereby it may be conveniently turned, and I represents the hood through the medium of which my novel closure is connected to the bottle A. The said hood I is interiorly threaded at *m* to engage the thread *a* on the bottle-neck B and is provided adjacent to said thread *m* with an interior shoulder *n* for the engagement of the lower ends of the retainer-arms *d* and is also provided at its upper end with an inwardly-directed flange *p*.

In assembling the parts of my improvements the washer G is placed on the upper end of the neck B, as is also the valve-seat D, with the ball-valve E thereon. The cap F is then placed on the washer G and around the valve-seat D and the valve E, after which the hood I is moved downward over the cap F, and the thread *m* of the hood is turned into engagement with the thread *a* of the neck B, and consequently the hood is moved downward on the neck until the hood-flange *p* brings up against the base-flange *h* of the cap F, when, as will be readily apparent, the cap will be strongly connected with the bottle-neck and held against casual movement with respect thereto. At this time the interior shoulder *n* of the hood I will have assumed a position below the lower ends of the arms *d* on the hood-retainer C, when, as will be readily apparent, the said arms will spring outward and by engaging the said shoulder *n*

will inhibit removal of the hood from the bottle-neck B.

With the parts relatively arranged as shown in Fig. 2 it will be observed that the screw-plug H holds the ball-valve E tight against its seat, with the result that the bottle is hermetically sealed and air is prevented from entering the bottle and no liquid can leave the bottle. When, however, the screw-plug H is turned out of the aperture *k* in the cap F and the bottle is inverted, the ball-valve E will fall away from the valve-seat D and bring up against protuberances *r* in the inner side of the cap F. Because of this it is clear that liquid is free to pass from the interior of the bottle through the annular valve-seat D and around the ball-valve E and out through the aperture *k* in the cap F. In the event, however, of an attempt being made to fraudulently refill the bottle it will be understood that the ball-valve E will quickly re-assume its position on the valve-seat D and in that way effectually prevent liquid or other substance from passing from the interior of the cap F through the opening in the valve-seat D and into the interior of the bottle.

Notwithstanding the efficiency of my novel valved closure in performing the office stated, it will be seen that the closure is simple and inexpensive in construction, is susceptible of being expeditiously and easily applied to a bottle without the employment of any tools whatsoever, and is calculated when nickel-plated or otherwise embellished to enhance rather than detract from the ornamental appearance of a bottle.

The construction herein shown and described constitutes the present and preferred embodiment of my invention; but I desire it understood that various changes in the form and arrangement of parts may be made in practice without involving departure from the scope of my invention as claimed.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a valved bottle-closure, the combination of a bottle-neck having an exterior flange, a hood-retainer mounted on the bottle-neck, below the flange, and having a depending outwardly-flared and resilient arm, a cap arranged on the bottle-neck, a valve contained in said cap, and a hood engaging the cap and surrounding the bottle-neck and having an interior shoulder arranged to be

engaged by the said arm of the hood-retainer.

2. In a valved bottle-closure, the combination of a bottle-neck having an exterior thread and an exterior flange disposed above said thread, a hood-retainer mounted on the bottle-neck, below the flange thereof, and having a depending outwardly-flared and resilient arm, a cap arranged on the bottle-neck and having a base-flange, a valve contained in said cap, and a hood having an inturned flange resting above the base-flange of the cap, and an interior thread engaging the thread on the bottle-neck, and also having an interior shoulder arranged to be engaged by the said arm of the hood-retainer.

3. The combination in a valved bottle-closure, of a valve-seat comprising a lower annular layer of compressible material and an upper annular layer of tougher and more durable material connected to the lower layer, a ball-valve movable toward and from said seat, a casing inclosing the valve-seat and the valve and having a threaded aperture alined with the valve-seat, and a threaded plug bearing in said aperture and arranged in one position to hold the valve against its seat.

4. In a valved bottle-closure, the combination of a bottle-neck having an exterior thread and an exterior flange disposed above said thread and also having cross-bars extending across its mouth, a hood-retainer mounted on the bottle-neck, below the flange thereof, and having a depending outwardly-flared and resilient arm, an annular valve-seat arranged on the cross-bars of the bottle-mouth, a ball-valve arranged on said seat, a cap surrounding the valve-seat and valve and having a base-flange and also having a threaded aperture alined with the valve-seat and valve, a screw-plug occupying said aperture and engaging the valve, and a hood having an inturned flange resting above the base-flange of the cap, and an interior thread engaging the thread on the bottle-neck, and also having an interior shoulder arranged to be engaged by the said arm of the hood-retainer.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALBERT H. LEWIS.

Witnesses:

JACOB H. RICKEN,
GEO. A. BARNES.